

REMARKS/ARGUMENTS

We note that this application is now being examined by examiner Dravinkas and look forward to working with him.

Overview of the invention:

As track densities increase, it becomes increasingly important to prevent accidentally writing data outside the boundaries of a track, including on an adjacent track. A secondary lower magnetic pole design for a write head is described that achieves this by being closer to the ABS than the primary lower pole. It takes the form of a ledge that terminates at the ABS, said ledge resting on a non-magnetic layer.

It should be noted that the present invention is an example of a first-generation magnetic writer since it writes information by exposing the media to the weak peripheral field that extends outside the write gap, the major fraction of the flux being confined to be within the gap. In second-generation magnetic writers (referred to as perpendicular pole writers) the major fraction of the flux passes through the media with only a small amount of flux passing across the gap.

Thus the term 'write gap' has a different meaning when used to describe first generation writers (such as in the present invention) from its meaning when used to describe perpendicular pole writers.

Reconsideration is requested of the rejection of claim: 4 under 35 U.S.C. 102(e) as being anticipated by Chen et al. (US 6,791,793):

This is an example of a perpendicular writer. In addition to using the term 'write gap' differently from the way it is used by the present invention, Chen does not disclose all the features of the present invention. In particular, the present invention claims "an upper magnetic pole that ...is separated from said ledge....by only a second layer of non-magnetic material that is a write gap"

Referring to FIG. 4, this means that layer 41 is separated from layer 11 by **only** layer 13. In contrast, referring to Chen's FIG. 7 (cited by examiner), "upper" magnetic pole P1 is separated from ledge 108 by **both** insulating layer 95 and write coil 94.

Reconsideration is requested of the rejection of claims 5-10 under 35 U.S.C. 102(e) as being anticipated by Chen et al. (US 6,791,793):

Applicant believes that, based on the foregoing arguments, the rejection of claim 4 under 35 USC 102 has now been overcome and notes that claims 5-10 are all dependent on claim 4 and therefore are believed to no longer be subject to rejection under 35 USC 102.

Reconsideration is requested of the rejection of claim 4 under 35 U.S.C. 103(a) as being unpatentable over Takano et al. (US 2002/0080821):

In describing Takano, examiner states  
(a) "directly on a substrate, a first layer (10b)....having, on a first side an edge, whose surface is normal to said substrate and parallel to said ABS..."

We have been unable to find any substrate depicted in FIG. 14. Nor is a substrate mentioned in either [0079] or [0086]. It is therefore impossible to know whether layer 10b was deposited directly onto a substrate or whether other magnetic layers are present between 10b and the substrate.

(b) "a first non-magnetic layer (insulating layer which encapsulates coil 20) that contacts said first layer of high magnetic permeability material only at said edge and extends away therefrom...."

Said edge is defined in (a) above and can only be one of the two edges that are separated by distance  $t_2$  in FIG. 14. Neither of these edges contacts the coil encapsulant. If it should be argued that the coil encapsulant contacts the lower edge at its right hand corner, it should be pointed out that this is not the only place where the coil encapsulant contacts 10b.

(c) "an upper magnetic pole (10a) ...that is separated from said ledge at a first side by only a second layer of non-magnetic material that is a write gap (g1)..."

g1 is filled with encapsulant layer 20. This has already been referred to in (b) above as a first non-magnetic layer. It is therefore incorrect to refer to it as a second layer of non-magnetic material with the implication that it is in addition to, and different from, the layer that is in contact with the ledge (as taught by the present invention).

In summary, to read on the present invention Takano's FIG. 14 would need to show an element that corresponds to element 91 of the present invention. This has not been demonstrated to be the case.

Reconsideration is requested of the rejection of claims 9-10 under 35 U.S.C. 103(a) as being unpatentable over Takano:

Applicant believes that, based on the foregoing arguments, the rejection of claim 4 under 35 USC 103 has now been overcome and notes that claims 9-10 are both dependent on claim 4 and therefore are believed to no longer be subject to rejection under 35 USC 103.

Reconsideration is requested of the rejection of claim 4 under 35 U.S.C. 103(a) as being unpatentable over Perlov et al. (US 4,897,749):

This is another example of a perpendicular writer so Perlov uses the term 'write gap' differently from the way it is used by the present invention. Referring to FIG. 2, examiner states that Perlov teaches that non-magnetic layer 26 contacts layer 25 of high magnetic permeability material only at an edge (of 25). This statement is incorrect:

- (i) Layer 26 is the main write pole so it cannot be non-magnetic.
- (ii) In the event examiner meant layer 22, instead of 26, we note that 22's contact to 25 is not limited to only an edge of 25.

Additionally, we note that Perlov's substrate 12 is magnetic whereas substrate 15 of the present invention is not. See for example the last line of page 1 of our specification. We have amended claim 4 to reflect this difference.

Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

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